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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,386	07/29/2003	Yassin Aden Awad	5243-042-US01	6529

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HANIFY & KING PROFESSIONAL CORPORATION
1055 Thomas Jefferson Street, NW
Suite 400
WASHINGTON, DC 20007

EXAMINER	
VU, MICHAEL T	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
09/30/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/629,386	AWAD ET AL.	
	Examiner	Art Unit	
	MICHAEL T. VU	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 6-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 6-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Remark, filed 06/12/2009, with respect to the rejection(s) of claim(s) 1-23 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ahmed (5,946,346).

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 09/14/2009 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim - 35 USC § 101

3. Analyzed and evaluated the method claim 1 is complaint with the requirement of 35 U.S.C. 101.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-4, 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mogensen (US 2004/0105460) in view of Larsson (US 5,241,690), in view of Haartsen (US 2002/0187799), and further in view of Ahmed (US 5,946,346).**

Regarding claims 1, 19, 20, 21, 22 and 23, Mogensen teaches an adaptive modulation and coding (adaptive modulation and coding (AMC), [0004]) method comprising: selecting one of a plurality of different available modulation (selecting AMC, [0004-0005]) and coding levels to apply to a signal transmitted from a transmitter to a receiver (receiver coding, [0039, 0046]), the selection being based on a comparison between a signal transmission quality and a threshold value(compared signal, [0046]); and

But Mogensen does not teach adjusting the threshold value when the signal transmission quality is within a predetermined range of the threshold value, and maintaining the threshold value unchanged when the signal transmission quality is outside that range.

However, Larsson teaches an adjusting the threshold value when the signal transmission quality is within a predetermined range of the threshold value (adjusting or collecting signal value, Col. 2, line 53 to Col. 3, line 12), and maintaining the threshold value unchanged when the signal transmission quality is outside that range (threshold value, Col. 2, line 53 to Col. 3, line 31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mogensen, with Larsson's teaching, in order to actual adjustment for controlling of the transmission power in radio communication between a mobile station and a base station for avoiding those signal disturbance and/or signal interference occurs.

But Mogensen and Larsson do not clearly teach leaving a selected modulation and coding level unchanged even though the comparison between a signal transmission quality and the threshold value indicates that the modulation and coding level should be increase, when the transmitted signal is not successfully received at the receiver.

However, Haartsen teaches leaving a selected modulation and coding level unchanged even though the comparison between a signal transmission quality (selected signal strength=quality, [0041]) and the threshold value indicates that the modulation [0016-0020] and coding level should be increase (power increased/decreased, [0041]), when the transmitted signal is not successfully received at the receiver (received signal strength, [0020, 0035]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mogensen and Larsson, with Haartsen's system, in order to increase the effectively power based on signal strength that modify the bandwidth, modulation symbol rate, and coding rate of a communication channel to improve the performance of the communication channel and to manage the allocatable

frequency spectrum more effectively for reducing signal-to-noise-plus-interference ratios, etc..

But Mogensen, Larsson, and Haartsen do not explicitly teach wherein in the adjusting step the threshold value is increased by an upward amount when the signal received by the receiver fails a cyclic redundancy check, and is decreased by a downward amount when the received signal passes the cyclic redundancy.

However, Ahmed teaches wherein in the adjusting step the threshold value is increased by an upward amount when the signal received by the receiver fails a cyclic redundancy check (CRC error not detected, Col. 7, lines 7-15), and is decreased by a downward amount when the received signal passes the cyclic redundancy (threshold adjustment, decreased, Col. 7, lines 7-15), and (Col.8, lines 6-16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mogensen, Larsson and Haartsen, with Ahmed's system, in order to improve a system for controlling the power of a traffic channel in a wireless communications system for preventing interference.

Regarding claim 2, Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 1, wherein the signal transmission quality is a signal-to-interference ratio (signal ratio, and/or interference [0012, 0014]) of Haartsen.

Regarding claim 3, Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 1, wherein the signal transmission quality is measured by the receiver (receiver measured signal, 0017-0018]) of Haartsen.

Regarding claim 4, Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 1, wherein in the adjusting step the threshold value is increased by an upward amount when the signal is not received successfully by the receiver (received signal strength, [0020, 0035]), and is decreased by a downward amount when the signal is received successfully by the receiver (receiver performance, [0017-0018]) all of Haartsen.

Regarding claim 6, the combination of Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 4, wherein the upward amount is different from the downward amount (increased/decreased different power, [0017-0020], and [0041-0044]) of Haartsen.

Regarding claim 7, the combination of Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 6, wherein the downward amount is smaller than the upward amount (increased/decrease power, [0017-0020], of Haartsen.

Regarding claim 8, the combination of Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 4, wherein a ratio of the downward amount to the upward amount is dependent upon a target error rate of the received signal (received error adjusted by increased/decreased power, 0017-0018]) of Haartsen.

Regarding claim 9, the combination of Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 4, wherein the downward amount **and/or** the upward amount is/are dependent upon a difference between the threshold value

(threshold value, [0017-0018]) and the signal transmission quality (signal quality=signal strength, [0012], and [0017-0018]) of Haartsen.

Regarding claim 10, the combination of Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 9, wherein each the amount increases as the difference decreases (transmission different power decreased/increased, [0017-0018]) of Haartsen.

Regarding claim 11, Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 1, having a threshold value for each pair of adjacent the levels (threshold level, [0017-0018]), and in the selecting step the selection is based on a comparison between the signal transmission quality (signal strength=quality, [0017-0018]) and the threshold values (threshold value, or signal strength, [0017-0018]) all of Haartsen.

Regarding claim 12, the combination of Mogensen Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 11, wherein each the threshold value is adjusted only when the signal transmission quality is within a predetermined range of the threshold value concerned (threshold value, signal strength=quality, [0017-0018]) of Haartsen.

Regarding claim 13, the combination of Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 12, wherein the predetermined range for at least one the threshold value is different from the predetermined range for another the threshold value (predetermined threshold level, 0046]) of Mogensen.

Regarding claim 14, Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 1, wherein the adjusting step and the selecting step are carried out in the receiver (adjusting signal ,[0017-0018]), and the receiver reports the selected level to the transmitter (signal strength=report signal, [0017-0018]), and [0042-0044] all of Haartsen.

Regarding claim 15, Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 1, wherein the receiver reports the signal transmission quality to the transmitter (signal strength=signal quality, [0012, 0017-0018]), and the adjusting step and selecting step are carried out in the transmitter (adjusted decreased/increased, [0017-0018]) all of Haartsen.

Regarding claim 16, Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 1, wherein the selecting step is carried out after the adjusting step (adjusted decreased/increased, [0017-0018]), and in the selecting step selection of a higher level (selected [0017-0018]), if indicated by the comparison between the signal (comparison signal, [0017-0018]) all of Haartsen.

Regarding claim 17, Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 1, wherein the transmitter is a base station of a wireless communication system (base station/receiver, [0001-0004]), and the receiver is a user equipment of the system (receiver, [0012, 0014]) all of Haartsen.

Regarding claim 18, the combination of Mogensen, Larsson, Haartsen and Ahmed teach the method as claimed in claim 17, wherein the signal is a downlink packet access signal (from base station to UE, [0007, 0017-0018]) of Haartsen.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Vu whose telephone number is (571) 272-8131. The examiner can normally be reached on 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Charles N. Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL T VU/
Examiner, Art Unit 2617